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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,158	01/26/2004	Kentaro Makino	461-156	6752

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EXAMINER
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LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/763,158

Applicant(s)

MAKINO, KENTARO

Examiner

Carlos Lopez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "of a virgin starting material" in claims 2 and 7 makes no connection to the material being used in their respective parent claims. Is it any "virgin material" or the material used in the mixing step?

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asami et al (US 4,851,376). Asami discloses a method of using reclaimed ceramics from unfired cordierite honeycomb in an amount ranging from 2.5% to 100% to form honeycomb ceramic materials (Col. 9, lines 1-5). The method comprises of crushing and milling the reclaimed ceramic material to a specified size range as noted in tables 3 and 4 to used in the forming of a ceramic honeycomb (See Example 1). The reclaimed ceramic material is then mixed with fresh cordierite material in the amount noted above

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(See also Col. 8 lines 3-10). As noted in example 1, ceramic material is mixed with a binder, see Col. 11, line 31-32, and then a humidifying liquid is added, water, to the mixture, see Col. 11, lines 34ff. As further note in example 2, the mixture is extruded to form specified dimension of 20x30x40mm structures, which clearly indicates that the ceramic article produces is cut in order to achieve the noted dimensions. Additionally the claimed step of drying the and calcining the ceramic body is deemed to be done as the ceramic article is heated from 40°C to 800°C and fired at 1400°C as noted in table 5. The limitation of having the ceramic article cut after drying by prior to calcining is deemed as an obvious modification to a person of ordinary skill in the art. In particular it would be obvious to a person of ordinary skill in the art as shown by Asami to cut the unwanted ceramic material prior to being dried in order to avoid wasting or increasing energy cost in drying unwanted ceramic parts of the article. Economically it would make more sense as shown by Asami to remove the unwanted materials from the ceramic article prior to being dried and calcined rather than at an intermediate point between the drying and the calcining step. Removing unwanted material of the ceramic article prior to calcining would not produce any unexpected results, except it merely provides an obvious variation from the teachings of the prior art.

The claimed step of crushing the unnecessary part generate during cutting is deemed as the crushing and milling of the reclaimed ceramic material to specified particle size as noted above.

In regards to the claimed limitation of removing at least particles having a particle size less than 1mm is deemed as being shown in example 2 of Asami showing the

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removal of particles that exceed .15mm. In particular Example 2 of Asami explicitly discloses removing particles exceeding .15mm, reading on the claimed limitation of removing particles less than 1mm, and consequently the resulting reclaimed powder is formed having particles less than .15mm which is deemed as the claimed "predetermined size".

As for claims 2-3, and 7-8, see above.

As for claim 4, as noted by Asami, the reclaimed cordierite is formulated to provide a similar reactional behavior to that of fresh cordierite, see Col. 8, lines 5ff. Thus Asami, clearly envisages the removal of the binder added for the extrusion of the ceramic material in order to provide reclaimed cordierite material having the same reactional behavior as fresh cordierite, which has no binder.

As for claim 5, the temperature at which the binder is removed will depend on the type of binder being used. Hence, the claimed temperature is merely indicative of the temperature at which the binder melts or decomposes in order to be removed from the cordierite material.

As for claim 6, the purpose for humidifying the starting material is to plasticize the material for extrusion, the amount of reclaimed dried cordierite added to the fresh cordierite material will thus require an increase in the humidification of the cordierite material being extruded. Hence, the amount of humidifying liquid added to the cordierite material will depend on the amount of added dried reclaimed material.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

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Asami et al (US 4,851,376) as applied to claim 1 above and in further view of Andou et al (US 6,284,188). As noted above Asami discloses a method of making a cordierite ceramic material. Asami is silent disclosing the type of machine use for kneading and extruding the ceramic material. However, Andou teaches of using a molding machine designed for kneading and extruding the starting ceramic material to form a honeycomb cordierite (See figure 1a and Col. 6, lines 11ff). Thus at the time the invention was made. It would have been obvious to a person of ordinary skill in the art to use Andou's machine to form the ceramic honeycomb cordierite for the formation of Asami's ceramic honeycomb.

Additionally, the purpose for humidifying the starting material is to plasticize the material for extrusion, the amount of reclaimed dried cordierite added to the fresh cordierite material will thus require an increase in the humidification of the cordierite material being extruded. Hence, the amount of humidifying liquid added to the cordierite material will depend on the amount of added dried reclaimed material and its point of addition, either added prior to extrusion or during extrusion, will not have result in unexpected results.

### ***Response to Arguments***

Applicant's arguments filed 5/3/06 have been fully considered but they are not persuasive. Applicant argues that Asami fails to disclose the removing particles having a size less than 1mm. However, Example 2 of Asami explicitly discloses removing particles exceeding .15mm, reading on the claimed limitation of removing particles less

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than 1mm, and consequently the resulting reclaimed powder is formed having particles less than .15mm which is deemed as the claimed "predetermined size".

Applicant also argues that the combined teachings of Asami and US '188 does not disclose humidifying and molding being performed in the same molding machine. However, the '188 patent is cited to show that the molding and humidifying are done in the same machine. The '188 uses a kneading and extrusion machine, wherein when the machine is kneading the materials, it is mixing the water, the claimed humidifying step, as taught by Asami and then consequently molding the material by extruding using '188's machine. Hence clearly showing that '188 does provide a machine to humidify and mold the starting material as instantly claimed.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

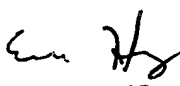
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
ERIC HUG  
PRIMARY EXAMINER

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